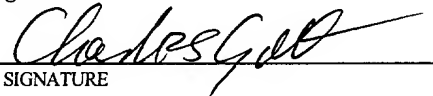


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|---|--|---|--|---|--|
| FORM PTO-1390 (REV. 9-2001) | | U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE | | ATTORNEY'S DOCKET NUMBER 29462-032 | |
| TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371 | | | | | |
| INTERNATIONAL APPLICATION NO. PCT/EP00/04961 | | INTERNATIONAL FILING DATE 31 May 2000 | | U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 10/019326 | |
| TITLE OF INVENTION AUSTENITIC Ni-Cr-Mo-Fe ALLOY | | | | | |
| APPLICANT(S) FOR DO/EO/US Ulrich BRILL, et al. | | | | | |
| Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: | | | | | |
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). | | | | | |
| Items 11 to 20 below concern document(s) or information included: | | | | | |
| <ol style="list-style-type: none"> 11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 14. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A change of power of attorney and/or address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825. 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 20. <input checked="" type="checkbox"/> Other items or information: PCT International Search Report (in German and English) International Preliminary Examination Report Express Mail Label No. EL616646561US | | | | | |

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|--|------------------|---|---|--|----|
| U.S. APPLICATION NO. (known, see 37 CFR 1.53) 10/019326 | | INTERNATIONAL APPLICATION NO. PCT/EP00/04961 | | ATTORNEY'S DOCKET NUMBER 29462-032 | |
| 21. <input checked="" type="checkbox"/> The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. \$1040.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 ENTER APPROPRIATE BASIC FEE AMOUNT = | | | | CALCULATIONS PTO USE ONLY | |
| | | | | \$ 890.00 | |
| Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)). | | | | \$ | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | \$ | |
| Total claims | 12 - 20 = | 0 | x \$18.00 | \$ | |
| Independent claims | 1 - 3 = | 0 | x \$84.00 | \$ | |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + \$280.00 | \$ | |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ 890.00 | |
| <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. | | | | \$ - | |
| SUBTOTAL = | | | | \$ 890.00 | |
| Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)). | | | | \$ | |
| TOTAL NATIONAL FEE = | | | | \$ 890.00 | |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property + | | | | \$ 40.00 | |
| TOTAL FEES ENCLOSED = | | | | \$ 930.00 | |
| | | | | Amount to be refunded: | \$ |
| | | | | charged: | \$ |
| a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed. | | | | | |
| b. <input checked="" type="checkbox"/> Please charge my Deposit Account No. 16-2500 in the amount of \$ 930.00 to cover the above fees. A duplicate copy of this sheet is enclosed. | | | | | |
| c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 16-2500 . A duplicate copy of this sheet is enclosed. | | | | | |
| d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. | | | | | |
| NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status. | | | | | |
| SEND ALL CORRESPONDENCE TO: Proskauer Rose LLP Patent Department 1585 Broadway New York, NY 10036 | | |  SIGNATURE | | |
| | | | Charles Guttman NAME | | |
| Phone: 212.969.3000 Fax: 212.969-2900 | | | 29,161 REGISTRATION NUMBER | | |

10/019326

Attorney Docket No. : 29462-032

531 Rec'd PCT

21 DEC 2001

IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

| | | |
|------------------------|---|---------------------------------|
| Applicant | : | Ulrich BRILL, et al. |
| Int'l Appl. No. | : | PCT/EP00/04961 |
| Int'l. Filing Date | : | May 31, 2000 |
| Priority Date | : | June 25, 1999 |
| Title of the Invention | : | AUSTENITIC Ni-Cr-Mo-Fe ALLOY |

**PRELIMINARY
AMENDMENT**

Assistant Commissioner for Patents
Box PCT
Washington, DC 20231

Express Mail Mailing Label No. :

EL616646561US

Sir:

Prior to examination, please amend the above-identified patent application as follows:

IN THE SPECIFICATION:

Page 1, after the title, please insert --BACKGROUND OF THE INVENTION--.

Page 3, before the first paragraph which begins with "It is the object," please insert --SUMMARY OF THE INVENTION--.

Page 3, before the paragraph, which begins with "This object is attained," please insert --DETAILED DESCRIPTION OF THE INVENTION--.

IN THE CLAIMS:

Please note that the claims have been amended in the International Application. In addition, please amend claims 3 to 12 of the amended claims to remove their multiple dependencies. A “marked-up” version of the amended claims is enclosed herewith in accordance with 37 C.F.R. 1.121 (c)(1).

- 3. (Amended) Alloy as in claim 1, characterized in that the maximum total (in % by mass) of Al + Ti is 0.30.
- 4. (Amended) Alloy as in claim 1, characterized in that the same scrap materials are used to produce the claimed alloy combination.
- 5. (Amended) Alloy as in claim 1, characterized in that in particular three scrap materials with different mixture ratios are combined with each other.
- 6. (Amended) Alloy as in claim 1, characterized in that an effective total $WS = \% Cr + 3[\% Mo + 0.5 \% W] + 16 \% N \geq 54$ is selected.
- 7. (Amended) Alloy as in claim 1, characterized in that a stretch limit $R_{p0.2}$ of at least 400 N/mm^2 is selected in the solution-annealed state.
- 8. (Amended) Alloy as in claim 1, characterized in that a combination of $WS \geq 54$ with $R_{p0.2} \geq 400 \text{ N/mm}^2$ is selected in the solution-annealed state.
- 9. (Amended) Utilization of the alloy as in claim 1 as a welding additive material in the offshore industry, in particular for connection welding of longitudinal-seam pipes made of 6-Mo steel, duplex and super-duplex steel.
- 10. (Amended) Utilization of the alloy as in claim 1 as additive welding material for build-up welding, in particular for flanges in the offshore field, or for boiler pipes in waste burning plants.

11. (Amended) Utilization of the alloy as in claim 1 as a build-up welding band in plant construction.
12. (Amended) Utilization of the alloy as in claim 1 in gas channels of flue gas desulphurization installations.

REMARKS

Amendments are being made to claims 3-12 to remove their multiple dependencies.


Please proceed to examine the application as amended herein.

Respectfully submitted,
PROSKAUER ROSE LLP
Attorneys for Applicant(s)

Date: December 21, 2001

PROSKAUER ROSE LLP
1585 Broadway
New York, NY 10036

Tel: (212) 969-3000

By 
Charles Guttman
Reg. No. 29,161

Amended Claims - Marked-Up Version

3. Alloy as in claim 1 [or 2], characterized in that the maximum total (in % by mass) of Al + Ti is 0.30.
4. Alloy as in [one of the claims 1 to 3] claim 1, characterized in that the same scrap materials are used to produce the claimed alloy combination
5. Alloy as in [one of the claims 1 to 4] claim 1, characterized in that in particular three scrap materials with different mixture ratios are combined with each other.
6. Alloy as in [one of the claims 1 to 5] claim 1, characterized in that an effective total $WS = \% Cr + 3[\% Mo + 0.5 \% W] + 16 \% N \geq 54$ is selected.
7. Alloy as in [one of the claims 1 to 6] claim 1, characterized in that a stretch limit $R_{p0.2}$ of at least 400 N/mm^2 is selected in the solution-annealed state.
8. Alloy as in [claims 1 to 7] claim 1, characterized in that a combination of $WS \geq 54$ with $R_{p0.2} \geq 400 \text{ N/mm}^2$ is selected in the solution- annealed state.
9. Utilization of the alloy as in [one of the claims 1 to 8] claim 1 as a welding additive material in the offshore industry, in particular for connection welding of longitudinal-seam pipes made of 6-Mo steel, duplex and super-duplex steel.
10. Utilization of the alloy as in [one of the claims 1 to 8] claim 1 as additive welding material for build-up welding, in particular for flanges in the offshore field, or for boiler pipes in waste burning plants.
11. Utilization of the alloy as in [one of the claims 1 to 8] claim 1 as a build-up welding band in plant construction.

12. Utilization of the alloy as in [one of the claims 1 to 8] claim 1 in gas channels of flue gas desulphurization installations.

10/019326

Austenitic Ni-Cr-Mo-Fe Alloy

Austenitic Ni-Cr-Mo-Fe Alloy

The invention relates to an austenitic warm or cold-formable alloy.

Until now austenitic, austenitic-ferritic, ferritic as well as ferritic-martensitic steel on the one hand, and on the other hand nickel based alloys were used until now as materials for mechanical and at the same time chemically corrosion resistant components under heavy stress. The mechanical strength of austenitic steel is not sufficient for several applications. With ferritic-austenitic steel as well as with ferritic and ferritic-martensitic steel its poor processing behavior (hot forming, weldability) and the insufficient corrosion resistance are disadvantages.

EP-B1 0 334 410 has disclosed a nickel-chrome-molybdenum alloy that contains (by % of mass) the following alloy elements:

22.0 to 24.0 chrome

15.0 to 16.5 molybdenum

Up to 0.3 wolfram

Up to 1.5 iron

Up to 0.3 cobalt

Up to 0.1 silicon

Up to 0.5 manganese

up to 0.015 carbon

up to 0.4 vanadium

0.1 to 0.4 aluminum

0.001 to 0.4 magnesium

0.001 to 0.04 calcium

The residue consists of nickel and includes and unavoidable impurities.

EP-B1 0 247 577 has disclosed an alloy on nickel basis containing chrome and molybdenum which can be hardened and containing, (in % by mass) the following alloy components:

Carbon max. 0.1

Manganese max. 5

Silicon max 1

Phosphor max 0.03

Sulfur max 0.03

Chrome 16-24

Molybdenum 7 to 12

Niobium 2 to 6

Titanium 0.50 to 2.5

Traces of aluminum up to 1

Boron max. 0.02

Zirconium max. 0.050

Cobalt max. 5

Copper max. 5

and containing in addition at least 50% nickel as residue as well as impurities due to production, with the total of chrome and molybdenum no greater than 31 and the total of niobium, titanium and aluminum is such that their total atomic weight percentage comes to 3.5 to 5 and combines in solution annealed and hardened form a 0.2% stretch limit of over 100 ksi (690 MN/m^2) combined with a resistance to fissure corrosion and crevice

corrosion as well as against tension fissure corrosion in a chloride and sulfide environment at high temperature up to 260°C without requiring work below its recrystallization temperature.

If extreme corrosion conditions exist, it is necessary in many areas of application to have recourse to comparatively expensive Ni-Cr-Mo alloys with Fe contents limited in part to a maximum of 1%. But the alloys established on the market still are no longer sufficient to meet all requirements in today's chemical and petrochemical process technology, nor in the present environmental protection technology, in particular when at the same time high tensile limits or tensile strength are required. Problems often occur when known alloys are used as welding additives, in particular in the field of offshore technology, where mostly 6-Mo steel, duplex and super-duplex steel is welded.

It is the object of the present invention to propose an alloy that can be used in particular under extreme corrosive conditions and possesses at the same time extraordinarily high tensile limits and tensile strength. The alloy must possess high resistance to crevice and fissure corrosion as well as to removing corrosion and it must furthermore be possible to produce and process it without problems. For this reason the required strength of the alloy must already exist in the solution annealed or soft annealed state, so that additional hardening and heat treatment can be dispensed with.

This object is attained with an austenitic alloy which can be hot and cold-formed for use in aqueous, oxidizing media, consisting of the following alloy elements (in % by mass):

| | |
|----|-------------|
| Cr | 18.0-21.0 |
| Fe | 12.0-16.0 |
| Mo | 9.0-13.0 |
| Co | max. 1.0 |
| W | 0.5-2.5 |
| C | max. 0.025 |
| N | 0.05-0.25 |
| Mn | max. 0.50 |
| Si | max. 0.50 |
| Ti | max. 0.02 |
| Nb | 0.05-0.5 |
| Cu | max. 0.3 |
| P | max. 0.010 |
| Al | 0.05-0.5 |
| S | max. 0.005 |
| Mg | 0.005-0.030 |
| Ca | 0.001-0.01 |
| V | max. 0.5 |
| B | max. 0.005 |
| Zr | 0.001-0.030 |

The residue consists of nickel and includes impurities resulting from production.

An especially preferred alloy is composed of the following alloy elements (in % by mass):

| | |
|----|------------|
| Cr | 19.0-20.0 |
| Fe | 13.0-15.0 |
| Mo | 10.0-12.0 |
| Co | max. 1.0 |
| W | 1.0-2.0 |
| C | max. 0.025 |
| N | 0.05-0.15 |
| Mn | max. 0.50 |
| Si | max. 0.50 |
| Ti | max. 0.02 |
| Nb | 0.1-0.3 |

| | |
|----|-------------|
| Cu | max. 0.3 |
| P | max. 0.010 |
| Al | 0.10-0.35 |
| S | max. 0.005 |
| Mg | 0.006-0.020 |
| Ca | 0.001-0.005 |
| V | max. 0.30 |
| B | max. 0.002 |
| Zr | 0.005-0.025 |

The residue consists of nickel and includes impurities resulting from production.

The total contents of aluminum + titanium are preferably limited to 0.30 (in % by mass). The same applies to the total contents of niobium + tantalate which are also kept at 0.30 (in % by mass).

Raising the iron content of the alloy according to the invention to 13 to 15 (in % by mass) results on the one hand in improved workability and formability, and on the other hand also to a considerable reduction of costs due to the lower metal price and the lowering of production costs. Contrary to generally held belief that less than 1% iron content is needed for build-up welding with Ni-Cr-Mo alloys on non-alloyed or low-alloyed steel, i.e. that a mixing up of iron in the welding deposit is prevented to a great extent, comparative investigations of the alloy A according to the invention and of the comparison alloy B which were used as welding additives for one- and two-layered build-up welding on St 52, shows that the iron content of the build-up welding carried out with the alloy A according to the invention is even lower than with the build-up welding with the comparison alloy B. This is shown in Fig. 1.

| Elements | 1-layered | | 2-layered | |
|----------|-----------|---------|-----------|---------|
| | Alloy A | Alloy B | Alloy A | Alloy B |
| Ni | Residue | 30 | Residue | 41.5 |
| Cr | 12.2 | 11 | 16.5 | 14.5 |
| Mo | 6.55 | 4.2 | 9.1 | 6 |
| Fe | 47.9 | 52.5 | 28.1 | 35 |
| W | 0.75 | n.b. | 1.13 | n.b |

Fig. 1: Chemical analyses of the build-up welding with the alloy A according to the invention and of the comparison alloy B on St 52.

The chemical composition (% by mass) of the comparison alloy B is as follows:

| | |
|----|-------|
| Cr | 22 |
| Fe | 3.0 |
| C | 0.025 |
| Mn | 0.40 |
| Si | 0.40 |
| Mo | 8.0 |
| Co | 1.0 |
| Al | 0.40 |
| Ti | 0.40 |
| Nb | 3.5 |
| P | 0.010 |
| S | 0.010 |

Lowering the niobium content of the alloy A according to the invention to (in % by mass) preferably 0.1 to 0.3 results in far better weldability than with the comparison alloy B.

In addition a faultless and sediment-free, high-load bearing weld connection with duplex and super duplex steel having high nitrogen contents becomes at all possible.

Increasing the molybdenum content of the alloy A according to the invention to (in % by mass) 10 to 12, as well as increasing the W content to (in % by mass) 1 to 2 results in greater crevice and fissure corrosion resistance than alloy B, as is documented in Fig. 2.

Contrary to the instruction incorporated in EP-B1 0 247 577, according to which nitrogen contents up to 0.04% are acceptable and no precise specifications are given concerning the influence of nitrogen, the investigation of the influence of nitrogen in the alloy A according to the invention shows that nitrogen clearly increases the tensile limits and tensile strength on the one hand, and on the other hand clearly improves the corrosion resistance of the alloy A according to the invention. Fig. 3 shows this as an example of tensile strength R_m over nitrogen content, and Fig. 4 shows the tensile strength $R_{p0.2}$ over the nitrogen content for the alloy A according to the invention. The tensile limit is increased by approximately 30 % and the tensile strength by approximately 20 %.

The increase of the crevice corrosion resistance of the alloy according to the invention thanks to the addition of nitrogen is clearly shown in Fig. 5. In the state of the art, the crevice corrosion resistance is determined according to ASTM G48, method D, as well as "Green Death" solution (7% H_2SO_4 , 3% HCl , 1% $FeCl_3$, 1% $CuCl_2$). The critical crevice corrosion temperature increases in both tests as the content in nitrogen increases.

The alloy according to the present invention finds its application as an additive welding material in the offshore industry, in particular for connecting welding of long-seam welded pipes made of 6-Mo steel, duplex and super-duplex steel.

In addition, the possibility exists to utilize the alloy according to the invention as a welding additive material for build-up welding, in particular for flanges in the offshore field or for boiler pipes in waste burning plants.

Finally it is also possible to use the alloy according to the invention as a build-up welding band in plant construction and in addition to use it in gas channels of flue gas desulphuration installations.

In an extension of the invention, the alloy according to the invention can be obtained by melting scrap alloy combinations so that the narrow margins of the different alloy elements defined in the claims are implemented.

CLAIMS

1. Austenitic alloy which can be hot and cold-formed for use in aqueous, oxidizing media containing chloride, consisting of the following alloy elements (in % by mass):

| | |
|----|-------------|
| Cr | 18.0-21.0 |
| Fe | 12.0-16.0 |
| Mo | 9.0-13.0 |
| Co | max. 1.0 |
| W | 0.5-2.5 |
| C | max. 0.025 |
| N | 0.05-0.25 |
| Mn | max. 0.50 |
| Si | max. 0.50 |
| Ti | max. 0.02 |
| Nb | 0.05-0.5 |
| Cu | max. 0.3 |
| P | max. 0.010 |
| Al | 0.05-0.5 |
| S | max. 0.005 |
| Mg | 0.005-0.030 |
| Ca | 0.001-0.01 |
| V | max. 0.5 |
| B | max. 0.005 |
| Zr | 0.001-0.030 |

Nb and Ta as needed, with the total of Nb and Ta being at most 0.30.

The residue consists of nickel and includes impurities resulting from production.

2. Alloy as in claim 1, characterized by the following alloy elements (% by mass)

Cr 19.0-20.0
 Fe 13.0-15.0
 Mo 10.0-12.0
 Co max. 1.0
 W 1.0-2.0
 C max. 0.020
 N 0.05-0.15
 Mn max. 0.50
 Si max. 0.50
 Ti max. 0.02
 Nb 0.1-0.3
 Cu max. 0.3
 P max. 0.010
 Al 0.10-0.35
 S max. 0.005
 Mg 0.006-0.020
 Ca 0.001-0.005
 V max. 0.30
 B max. 0.002
 Zr 0.005-0.025

The residue consists of nickel and includes impurities resulting from production.

3. Alloy as in claim 1 or 2, characterized in that the maximum total (in % by mass) of Al + Ti is 0.30.
4. Alloy as in one of the claims 1 to 3, characterized in that the same scrap materials are used to produce the claimed alloy combination

5. Alloy as in one of the claims 1 to 4, characterized in that in particular three scrap materials with different mixture ratios are combined with each other.
6. Alloy as in one of the claims 1 to 5, characterized in that an effective total $WS = \% Cr + 3[\% Mo + 0.5 \% W] + 16 \% N \geq 54$ is selected.
7. Alloy as in one of the claims 1 to 6, characterized in that a stretch limit $R_{p0,2}$ of at least 400 N/mm^2 is selected in the solution-annealed state.
8. Alloy as in claims 1 to 7, characterized in that a combination of $WS \geq 54$ with $R_{p0,2} \geq 400 \text{ N/mm}^2$ is selected in the solution-annealed state.
9. Utilization of the alloy as in one of the claims 1 to 8 as a welding additive material in the offshore industry, in particular for connection welding of longitudinal-seam pipes made of 6-Mo steel, duplex and super-duplex steel.
10. Utilization of the alloy as in one of the claims 1 to 8 as additive welding material for build-up welding, in particular for flanges in the offshore field, or for boiler pipes in waste burning plants.
11. Utilization of the alloy as in one of the claims 1 to 8 as a build-up welding band in plant construction.
12. Utilization of the alloy as in one of the claims 1 to 8 in gas channels of flue gas desulphurization installations.

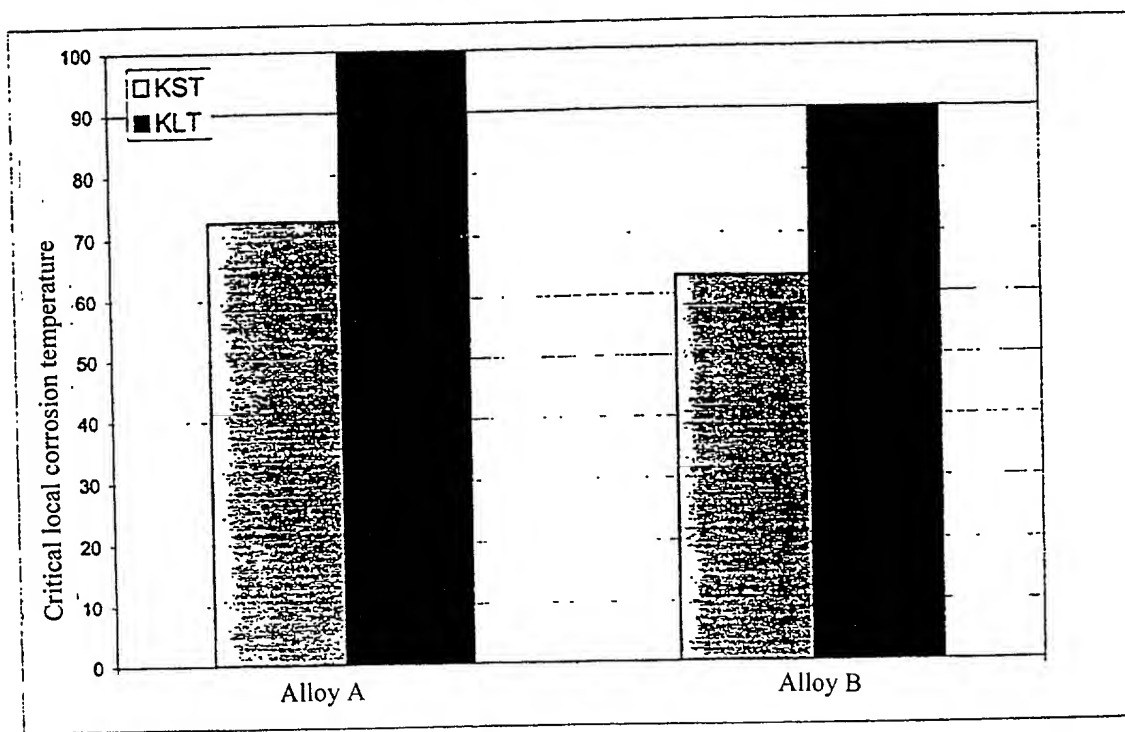


Fig. 2: Critical crevice and critical fissure corrosion temperature of the alloy A according to the invention and of the comparison alloy B following testing in "green death" solution (7% H_2SO_4 , 3% HCl , 1% $FeCl_3$, 1% $CuCl_2$)

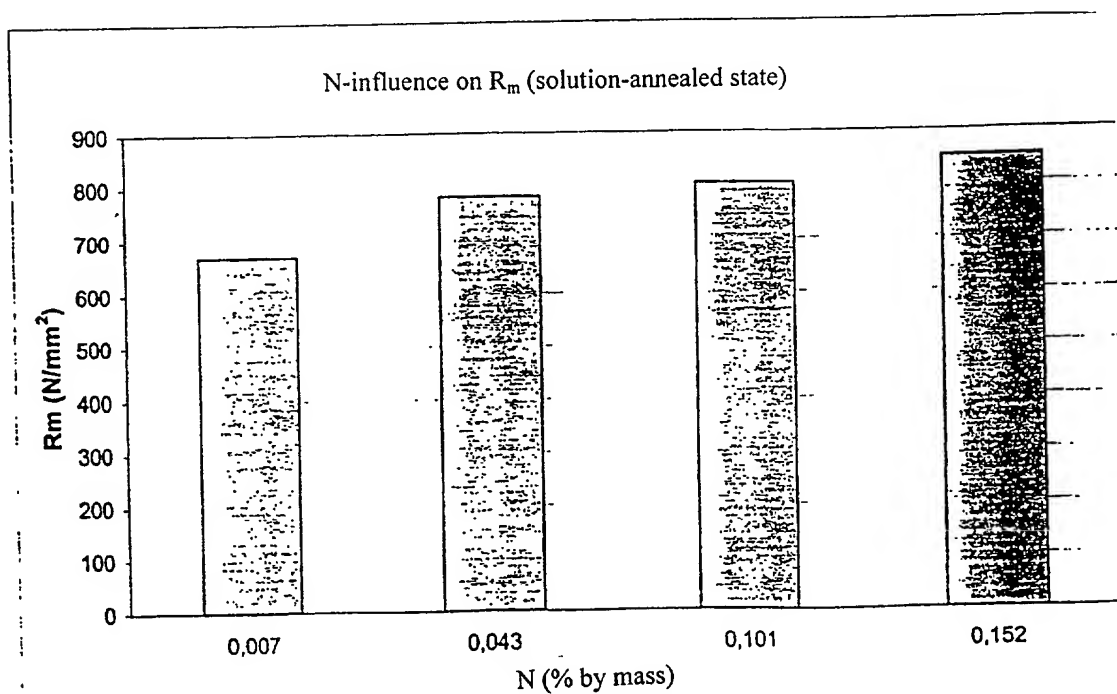


Fig. 3: Influence of nitrogen on the tensile strength of the alloy A according to the invention.

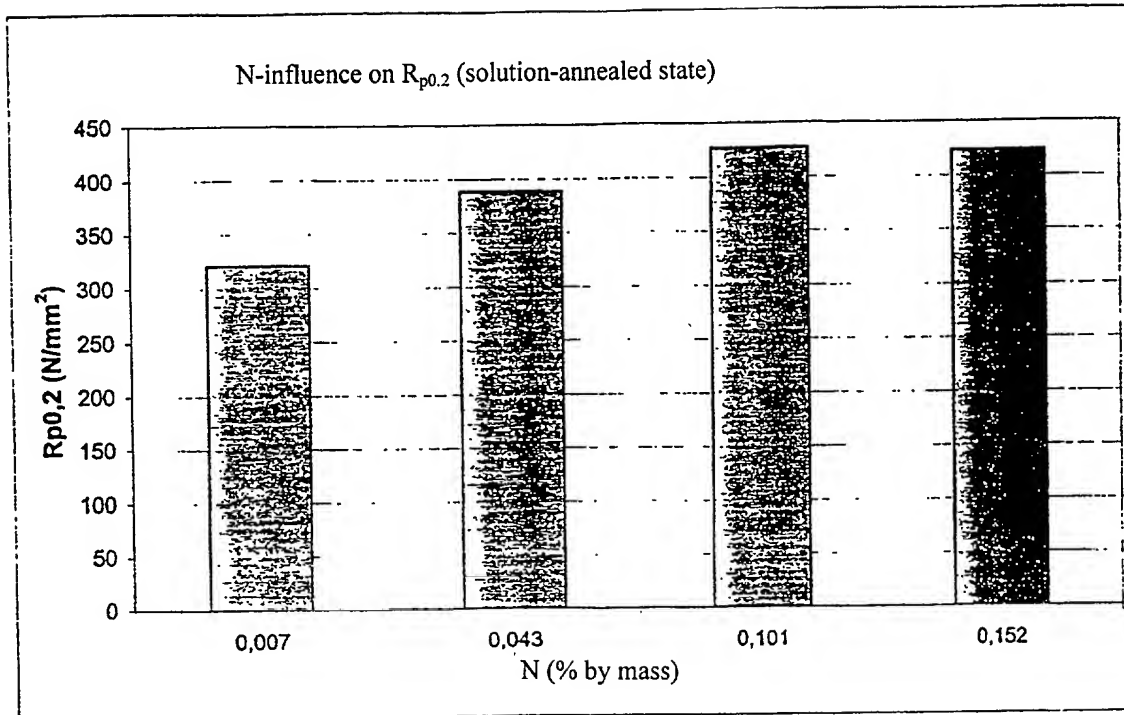


Fig. 4: Influence of nitrogen on the tensile limit of the alloy A according to the invention.

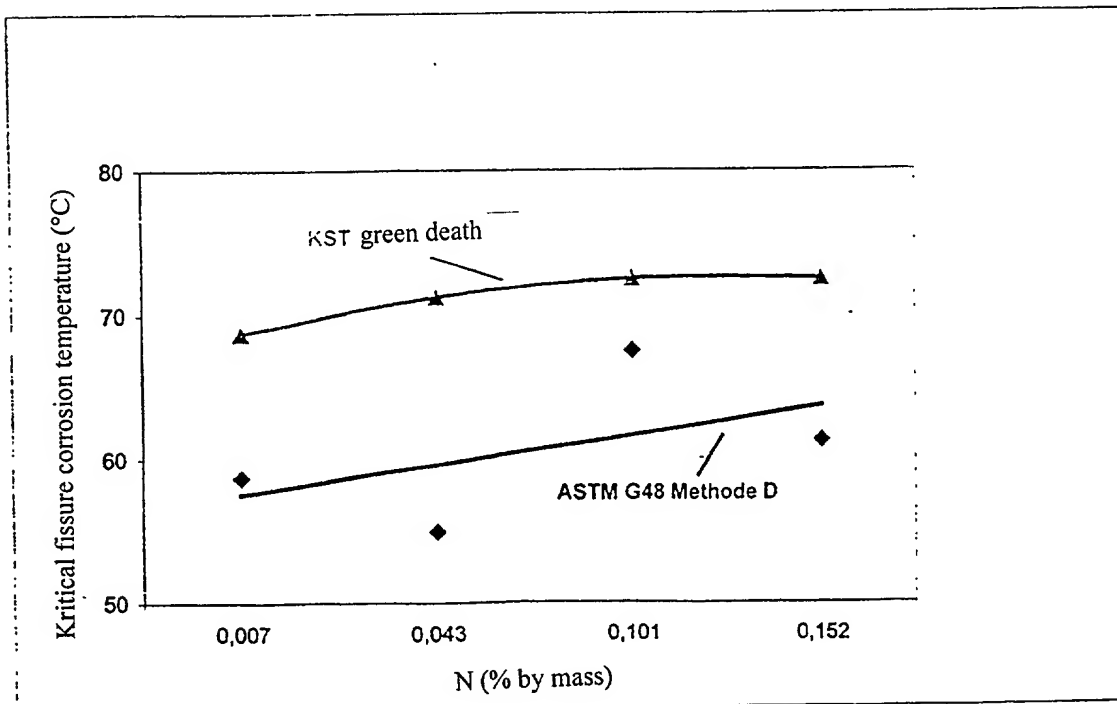


Fig. 3: Influence of nitrogen on the fissure corrosion resistance of the alloy A according to the invention (according to ASTM G 48, Method D, as well as in "Green death" (7% H_2SO_4 , 3% HCl , 1% $FeCl_3$, 1% $CuCl_2$))

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

AUSTENITIC NI-CR-MO-FE ALLOY

the specification of which is attached hereto unless the following box is checked:

 X was filed on May 31, 2000 as United States Application Number _____
or PCT International Application Number PCT/EP00/04961
and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified, by checking the box, any foreign application for patent or inventor's certificate, or PCT International Application having a filing date before that of the application on which priority is claimed.

| Prior Foreign Application(s) | | Priority Not Claimed | |
|------------------------------|----------------|------------------------|-------|
| <u>199 29 354.6</u> | <u>Germany</u> | <u>25/6/1999</u> | _____ |
| (Number) | (Country) | (Day/Month/Year Filed) | |
| _____ | _____ | _____ | _____ |
| (Number) | (Country) | (Day/Month/Year Filed) | |

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.

| | |
|----------------------|---------------|
| _____ | _____ |
| (Application Number) | (Filing Date) |
| _____ | _____ |
| (Application Number) | (Filing Date) |

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

| | | |
|----------------------|---------------|---|
| _____ | _____ | _____ |
| (Application Number) | (Filing Date) | (Status--patented, pending, abandoned) |
| _____ | _____ | _____ |
| (Application Number) | (Filing Date) | (Status--patented, pending, abandoned) |

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

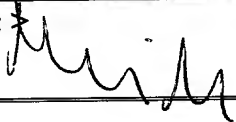
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10


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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


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| | |
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